

Worksheet #2 – Prediction Spreadsheet Prep

1. The rocket starts from rest on the launch pad and accelerates at a constant rate of 42.3 m/s/s for 0.092 s . Calculate the velocity of the rocket after 0.092 s ? How far did the rocket travel in 0.092 s ? What is the altitude of the rocket after 0.092 s ?
2. After 0.092 s the rocket changes acceleration to 38.0 m/s/s and maintains this constant acceleration until 1.063 s into the launch. Calculate the velocity of the rocket after 1.063 s ? How far did the rocket travel from 0.092 s to 1.063 s ? What is the altitude of the rocket after 1.063 s ?
3. After 1.063 s the rocket changes acceleration to 20.0 m/s/s and maintains this constant acceleration until 1.821 s into the launch. Calculate the velocity of the rocket after 1.821 s ? How far did the rocket travel from 1.063 s to 1.821 s ? What is the altitude of the rocket after 1.821 s ?
4. After 1.821 s the rocket engine burns out. What is the acceleration of the rocket as it climbs to apogee? Calculate the velocity of the rocket after 3.821 s ? How far did the rocket travel from 1.821 s to 3.821 s ? What is the altitude of the rocket after 3.821 s ?
5. The rocket continues to climb to apogee with gravity as the only accelerator? What is the velocity of the rocket at apogee? How long did it take the rocket travel from 3.821 s to apogee? How far did the rocket travel from 3.821 s to apogee? What is the altitude of the rocket at apogee?